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No pterygium recurrence with glue

by Rich Daly EyeWorld Staff Writer

Study finds lack of recurrence matches surgical cases that use sutures.

The largest and longest study to date of pterygium patients treated with fibrin glue has found pain and recurrence rates comparable with those receiving sutures.

John Hovanesian, M.D., clinical instructor, Jules Stein Eye Institute, University of California at Los Angeles, led the study and will present the findings — expanded research he first presented last year — at next month's World Cornea Congress V, Washington, D.C.

The retrospective chart review of 98 patients that underwent pterygium surgery with fibrin glue (Tisseel Duo Quick, Baxter Healthcare, Deerfield, Ill.) was compared to a control group that received sutures. The study, which included follow-up rates of three months to one year after surgery, found no recurrence and no complications among surgical glue patients.

"We remove the pterygium growths with the hope that they will never come back," Dr. Hovanesian said. "It used to be that the rate of recurrence was as high as 50% in the old days. We have seen better rates since newer techniques have been used."

Dr. Hovanesian reported at the 2004 ASCRS-ASOA Symposium & Congress that a smaller number of glue patients had less pain than sutured patients and that the duration of surgery was shorter. That

data was based on specifically asking each patient about his or her pain and to quantify it. Dr. Hovanesian also found pterygium surgery with the use of the surgical glue took half as long to finish.

Patient comfort levels were determined by what patients reported on follow-up visits.

Although researchers might ideally use a survey and linear scale approach, Dr. Hovanesian was confident of the review results, which were based in part on patients that underwent pterygium surgery with sutures in one eye and fibrin glue in the fellow eye. All such patients reported much higher comfort levels in the glue eye.

The results are significant because the common sun damage-related ocular surface condition generally has a high likelihood of recurrence post-operatively. Surgery is also often delayed because such patients generally have a slow and uncomfortable recovery.

Dr. Hovanesian has used Tisseel fibrin glue — the only Food and Drug Administration-approved surgical glue — for 18 months. The glue is approved for cardiac and thoracic surgery, so ophthalmic uses are off-label.

The study was prompted by ophthalmic surgeons' concern over whether pterygium growths are more likely to return when fibrin glue is used instead of sutures, Dr. Hovanesian said.

Complications?

The lack of recurrence allows surgeons to easily handle other issues that may arise with the use of fibrin. The fibrin glue contains a

number of growth factors that appear to enhance healing by allowing faster profusion of new blood vessels in the graft than sutures.

Unlike sutures, the surgical use of fibrin glue frequently causes some swelling in the graft at approximately two or three days post-operatively, which gradually goes away. This is likely caused by the glue, which allows quicker connection of the graft blood vessels and "make it swell like a balloon."

"Because the graft is not completely connected, it is not completely incorporated into the blood stream yet," Dr. Hovanesian said. "But in this technique it happens sooner."

Necrosis of the graft is possible in any technique, but Dr. Hovanesian has found it is probably less likely with glue than it is with sutures, although the complication is rare enough that it remains unclear.

Another concern among some ophthalmologists is the possibility for transmission of infection because the fibrin glue is a product of human and bovine blood.

Although he acknowledges hepatitis B, HIV, or bovine spongiform encephalopathy transmission is theoretically possible, Dr. Hovanesian said the rigorous testing has yet to allow any transmissions.

"The two things I tell patients in informed consent is that it is not FDA approved for ophthalmology, but it is for cardiac and lung surgery," Dr. Hovanesian said. "Also, because you are using blood products, there is a theoretic risk — even though it has never been seen in 8 million cases."